DOE-2.1E - Update Package #1

Documentation Corrections
Through 12/31/99

Corrections to DOE-2 BASICS (2.1E)

In the SYSTEMS Section

Page	Correction
3.69	Under the ZONE-AIR command, add this sentence to the description of OA-CFM/PER: The minimum outside air flow rate can be scheduled using the MIN-AIR-SCH keyword in the SYSTEM-AIR command. See p. 80.

Corrections to the BDL SUMMARY (2.1E)

In the LOADS Section

Page	Keyword	Correction
Under the command GLASS-TYPE		
13	SPACER-TYPE-CODE	Definition should be as follows: SPACER-TYPE-CODE (S-T-C) (1; 0 to 5) * [see revised table below] * Used only for glass types from Window Library (GLASS-TYPE-CODE ≥ 1000); default obtained from the Window Library.

Between-Glass Spacers	
SPACER-TYPE-CODE	Spacer type
0	Spacer is taken from Window Library
1 (default)	Aluminum
2	Stainless Steel
3	Butyl/Metal
4	Wood or Fiberglass
5	U-edge = U-center

Under the command EXTERIOR-WALL or ROOF		
19	TILT	Default is 90° tilt. Change comment to read: [Tilt for ROOF must be input; otherwise defaults to 90°]
19	INF-COEF	Change note at bottom of command to read: ? Used only if INF-METHOD = CRACK in SPACE or SPACE-CONDITIONS
Under the command WINDOW		
21	INF-COEF	Change note at bottom of command to read: ? Used only if INF-METHOD = CRACK in SPACE or SPACE-CONDITIONS
Under the command LOADS-REPORT		
25	HOURLY-DATA-SAVE	Change code-word NO to NO-SAVE

In the SYSTEMS Section

Under the command SYSTEM-CONTROL		
33	WS-ECONO	Add comment: System-dependent; see p. 62, Index of System Types, for default value.
Under the command SYSTEM-FANS		
34	SUPPLY-KW	Change range to 0.0 to 0.01 kW/cfm

Under the command SYSTEM-EQUIPMENT

36	OUTSIDE-FAN-ELEC	Abbreviation is O-F-ELEC; range should be 0.0 to 0.1 W/Btu

Under the command SUBR-FUNCTIONS

42	CONCHN	Should be CONCHN-1
42	DESIGN	Should be DESIGN-1
42	FANPWR	Should be FANPWR-1
42	FTDEV	Should be FTDEV-1
42	FURNAC	Should be FURNAC-1
42	HE	Should be HE-1
42	HOURIN	Should be HOURIN-1
42	HPUNIT	Should be HPUNIT-1
42	OPSTRT	Should be OPSTRT-1
42	RESVVT-0	Add keyword
42	RESVVT-1	Add keyword
42	RESVVT-2Z	Add keyword
42	RESVVT-3	Add keyword
42	RESVVT-4	Add keyword
42	SSBASB	Should be SSBASB-1
42	SSFCOR	Should be SSFCOR-1
42	SUPPLY-KW	Change range to 0.0 to 0.1 kW/cfm

Under the command PLANT-ASSIGNMENT

43	HP-LOOP-HEATING	Add code-word FROM-GROUND
43	HP-LOOP-COOLING	Add code-word FROM-GROUND
43	Add new keyword. GLOOP-TEMP-SCH	GLOOP-TEMP-SCH accepts a schedule of ground temperatures in °F with a default of the weather file ground temperatures (or those specified in LOADS)
43	DHW-TYPE	Code-words are (GAS; ELECTRIC, HEAT-PUMP, DESUPERHEAT, WASTE-HEAT), not just GAS .

Under the command SYSTEMS-REPORT

46	HOURLY-DATA-SAVE	Change code-word NO to NO-SAVE

In the PLANT Section

Under the command PLANT-EQUIPMENT

48	TYPE	Add COOLING-TWR to the list of code-words (COOLING-TWR is the same as OPEN-TWR)
48	SIZE	Add metric default and range: (0.0; -290.0 to 29.0 mW)

Under the command PLANT-PARAMETERS

51	OPEN-CENT-COND-PWR	Default should be 0.028
51	OPEN-REC-COND-PWR	Default should be 0.028
51	HERM-CENT-COND-PWR	Default should be 0.028
51	HERM-REC-COND-PWR	Default should be 0.028
51	ABSOR-TO-TWR-WTR	Add metric default and range: (-3.88; 0.001 to 110.0 lpm/kW)
51	DBUN-TO-TWR-WTR	Add metric default and range: (3.23; 1.1 to 5.4 lpm/kW)

51	DBUN-COND-T-ENT	Add metric default and range: (29.45; 16.0 to 38.0°C)
51	DBUN-COND-T-REC	Add metric default and range: (40.56; 27.0 to 49.0°C)
51	COMP-TO-TWR-WTR	Add metric default and range: (3.23; 1.1 to 5.4 lpm/kW)
51	MIN-COND-AIR-T	Add metric default and range: (18.33; -18.0 to 38.0°C)
51	CHILL-WTR-T	Add metric default and range: (6.67; 0.0 to 27.0°C)
51	CHILL-WTR-THROTTLE	Default value and range should be: (2.5; -15.0 to 15.0°F)
52	FURNACE-AUX	Add metric default and range: (234.3; 0.0 to 590.0W)
53	TWR-DESIGN-WETBULB	Add metric default and range: (23.89; 0.0 to 38.0°C)
53	TWR-FAN-LOW-ELEC	Add metric default and range: (0.125; 0.0 to 10kW/kW)
53	TWR-PUMP-HEAD	Add metric default and range: (18.29; 0.0 to 30.0m)
53	MIN-TWR-WTR-T	Default should be 65.0
54	HCIRC-HEAD	Add metric default and range: (18.29; 0.0 to 30.0m)
54	CCIRC-HEAD	Add metric default and range: (18.29; 0.0 to 30.0m)
54	HCIRC-DESIGN-T-DROP	Add metric default and range: (16.17; 0.0 to 56.0K)
54	CCIRC-DESIGN-T-DROP	Add metric default and range: (16.17; 0.0 to 56.0K)

Under the command EQUIPMENT-QUAD

55	ABSOR1-HIR-FPLR	Add: See *Supplement (2.1E)*, page C.129, Report PV G for default curve coefficients
55	ABSOR2-HIR-FPLR	Add: See *Supplement (2.1E)*, page C.129, Report PV G for default curve coefficients
55	ABSORG-HIR-FPLR	Add: See *Supplement (2.1E)*, page C.129, Report PV G for default curve coefficients

Under the command HEAT-RECOVERY

56	DIESEL-TRACK-MOD	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	COGEN-TRACK-MOD	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	COGEN-TRACK-MOD	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	COGEN-TRACK-SCH	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	DBUN-MIN-HEAT	Delete keyword. This keyword is now found under PLANT-PARAMETERS.

Under the command LOAD-ASSIGNMENT

56	DIESEL-TRACK-MOD	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	COGEN-TRACK-MOD	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	COGEN-TRACK-MOD	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	COGEN-TRACK-SCH	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	DBUN-MIN-HEAT	Delete keyword. This keyword is now found under PLANT-PARAMETERS.
56	NUMBER	In the comment for this keyword, change MBtu to MBtu/hr.

56	LOAD-RANGE	Add metric default and range: (--; 0.0 to 290.0 mW)
56	‡ *under comments*	change Mbtu's to Mbtu/hr

Under the command ENERGY-STORAGE

57	COOL-STORE-RATE	Change default and range: (0.0; -999 to 1000 Mbtu/hr)
57	COOL-SUPPLY-RATE	Change default and range: (0.0; -999 to 1000 Mbtu/hr)
57	HEAT-STORE-RATE	Add metric default and range: (0.0; 0.0 to 290.0 mW)
57	HEAT-SUPPLY-RATE	Add metric default and range: (0.0; 0.0 to 290.0 mW)
57	HTANK-LOSS-COEF	Add metric default and range: (0.0; 0.0 to 53000.0 W/K)
57	CTANK-LOSS-COEF	Add metric default and range: (0.0; 0.0 to 53000.0 W/K)
57	HTANK-BASE-T	Add metric default and range: (37.78; 0.0 to 100°C)
57	CTANK-BASE-T	Add metric default and range: (15.56; 0.0 to 100°C)
57	HTANK-T-RANGE	Add metric default and range: (5.56; 0.0 to 100°C)
57	CTANK-T-RANGE	Add metric default and range: (5.56; 0.0 to 100°C)
57	HTANK-ENV-T	Add metric default and range: (ambient temp; -18.0 to 100°C)
57	CTANK-ENV-T	Add metric default and range: (ambient temp; -18.0 to 100°C)
57	HTANK-FREEZE-T	Add metric default and range: (0.0; -34.0 to 100°C)
57	CTANK-FREEZE-T	Add metric default and range: (0.0; -34.0 to 100°C)

Under the command LOAD-MANAGEMENT

57	PRED-LOAD-RANGE	Add metric default and range: (--; 0.0 to 290.0 mW)

Under the command ENERGY-RESOURCE

58	RESOURCE	Add FUEL-OIL to list of code-words
58	ENERGY-UNIT	Change keyword to ENERGY/UNIT

Under the command SYSTEM-TYPES

88	Cross out the heading ZONE Level Commands and Keywords	

Under the command SYSTEM

94	HEAT-SOURCE	Change GAS-FURNACE to FURNACE
100	HEAT-SOURCE	Change GAS-FURNACE to FURNACE
107	HEAT-SOURCE	Default is GAS-FURNACE
107	ZONE-HEAT-SOURCE	Default is ELECTRIC
107	RETURN-AIR-PATH	Default is DUCT

Under the command SYSTEM-EQUIPMENT

95	RES-EVAP-COOLER	Add keyword; default is NO
95	RES-EVAP-CL-CFM	Add keyword; default is NO
95	OUTSIDE-FAN-T	Default should be F
95	OUTSIDE-FAN-KW	Change keyword to OUTSIDE-FAN-ELEC
98	OUTSIDE-FAN-KW	Change keyword to OUTSIDE-FAN-ELEC
100	SYSTEM-EQUIPMENT	Add: See pp.115 and 115a
101	SYSTEM-EQUIPMENT	Add: See pp.115 and 115a

Under the command SYSTEM-AIR

107	OA-CONTROL	Add keyword; default is TEMP
107	MIN-OUTSIDE-AIR	Change default to 0.0100
107	MAX-OA-FRACTION	Add keyword; default is 1.0000
107	VENT-METHOD	Add keyword; default is AIR-CHANGE
107	VENT-TEMP-SCH	Add keyword; default is no natural ventilation
107	NATURAL-VENT-AC	Add keyword; default is no natural ventilation
107	NATURAL-VENT-SCH	Add keyword; default is no natural ventilation
107	OPEN-VENT-SCH	Add keyword; default is no natural ventilation
107	MAX-VENT-RATE	Add keyword; default is 20.0000
107	HOR-VENT-FRAC	Add keyword; default is 0.0000
107	FRAC-VENT-AREA	Add keyword; default is 0.0500

In the SYSTEM-TYPES Section

Page	Keyword	Correction

Under the command SYSTEM-FANS

107	SUPPLY-DELTA-T	Default is 2.80F
107	SUPPLY-KW	Default is 0.0009 kW/cfm
107	INDOOR-FAN-MOD	Add keyword; default is INTERMITTENT
107	RETURN-DELTA-T	Add keyword; default is No return fan
107	RETURN-KW	Add keyword; default is No return fan

Under the command SYSTEM-EQUIPMENT

107	EVAP-CL-AIR	Add keyword; default is 1.0000
107	EVAP-CL-KW	Default is 0.0001 kW/cfm
107	FURNACE-AUX	Add keyword; default is 800.0
107	FURNACE-HIR	Add keyword; default is 1.35
107	FURNACE-HIR-FPLR	Add keyword; default is curve SDL-C111
107	HEATING-CAPACITY	Required keyword
107	HEAT-CAP-FT	Default is curve SDL-C51
107	HEATING-EIR	Default is 0.3700
107	HEAT-EIR-FT	Default is curve SDL-C56
107	HEAT-EIR-FPLR	Add keyword; default is curve SDL-C61
107	FURNACE-AUX-KW	Add keyword; default is 0.0000
107	HEAT-EXCH-EFF	Add keyword; default is 0.7000
107	HEAT-EXCH-DELP	Add keyword; default is 1.0000
107	DIRECT-EFF-FLOW	Add keyword; default is curve SDL-C58
107	INDIR-EFF-FLOW	Add keyword; default is curve SDL-C59
108	SYSTEM-EQUIPMENT	Add: See p.115 and 115a
115	MIN-HBG-RATIO	Change default to 0.0

Corrections to the SUPPLEMENT (2.1E)

In the BDL Section

Page	Correction
1.3	Delete the line that starts, 2) the Cross-Reference Listing of LOADS...
1.3	Delete the line that starts, 4) the Subroutine Call Tree,...
1.3	Delete the paragraph that starts, These four listings are ... and replace with this paragraph: These listings are available as four print files on the program release tape; they reside in these files: LDS LIS.DOC, LDS VAR.DOC, SYS LIS.DOC, and SYS VAR.DOC. Print out these files if you plan to use Input Functions. These tools are essential to the use of the feature; if you do not fully understand the calculation sequence in DOE-2, it is very easy to enter functions that change the DOE-2 results in unexpected ways. See also the LOADS and SYSTEMS sections of the Engineers Manual (2.1A) for detailed algorithm descriptions.
1.6	Change CONCHN to CONCHN-1
1.6	Change DESIGN to DESIGN-1
1.6	Change FANPWR to FANPWR-1
1.6	Change FTDEV to FTDEV-1
1.6	Change FURNAC to FURNAC-1
1.6	Change HE to HE-1
1.6	Change HOURIN to HOURIN-1
1.6	Change HPUNIT to HPUNIT-1
1.6	Change OPSTRT to OPSTRT-1
1.6	Add RESVVT-0
1.6	Add RESVVT-1
1.6	Add RESVVT-2Z
1.6	Add RESVVT-3
1.6	Add RESVVT-4
1.6	Change SSBASB to SSBASB-1
1.6	Change SSFCOR to SSFCOR-1
1.12	Under the Library Function STORE, change (X, IXIA) to (X, IXAA).
1.12	Under the Library Function V, change V(dbt,humrat) to V(dbt,humrat,press), change the description to read: returns specific volume of air (lb/cuft) as a function of drybulb temperature (F), humidity ratio (lb-water/lb-air), and pressure (in-Hg).
1.13	For external file operations (PRINT, WRITE, READ, REWIND, ENDFILE) the default file naming is FORnnn (no extension) where nnn is the unit number specified in the function; legal values for nnn are 50 to 999. Files names can be specified by using a SET command; SET FOR050=C: NPUT ATA.TXT causes unit 50 referenced in functions to connected to the file DATA.TXT in the C: NPUT directory. This connection is eliminated by issuing SET FOR050= (a null string after the equals sign eliminates the environment variable.) See the DOE21E and DOE2ENV batch procedure files for examples. <u>For PC versions of DOE-2.1E only:</u> The first executable function file operation cannot be a REWIND; this will result in a `unit not connected` error message that can be corrected by first READing or WRITEing to allow file connection.

1.40 Under the heading of "Saving Files of Hourly Output for Postprocessing" on p. 1.30 of the *DOE-2.1E Supplement*, please add the following information on how to save formatted ASCII files of DOE-2 hourly results so that they can be easily imported into postprocessing programs like Excel:

Saving Hourly Output for Postprocessing

Using HOURLY-DATA-SAVE=FORMATTED in the LOADS-REPORT, SYSTEMS-REPORT, or PLANT-REPORT command produces an ASCII file containing the hourly data specified in the corresponding HOURLY-REPORT commands. The file produced is CEC1_0*n*.DAT, where *n*=1 for LOADS, 2 for SYSTEMS, and 3 for PLANT. Each line of the file contains month, day, hour followed by hourly values, all separated by one or more blanks. The first few lines of a file, starting with month 1, day 1, hour 1, and for three hourly variables, might look like this:

```
1  1  1    18.0    10.1    90.2
1  1  2    18.5    10.7    90.7
1  1  3    18.8    11.7    90.6
```

Note that the column headers (variable names and units) are not saved in the file, so you have to be careful that the values you import into your postprocessor have the meaning you think they do.

1.40 The metric keywords for DAY-RESET-SCH are not implemented; English units must be used. RESET-SCHEDULEs cannot have the DAY-RESET-SCH embedded within the schedule, you must use a separate DAY-RESET-SCH command.

In the LOADS Section

Page	Correction
2.63	Bottom of the example: Change SHADING-SCH to SHADING-SCHEDULE. Change CONDUCT-SCH to CONDUCT-SCHEDULE.
2.88	Remove the sentence that starts, The relationship between site... Correct the line that starts, where "space height" is the... by changing the word "ttop" to "top" and "devel" to "level".
2.96	Correct the line that starts, 2-5% lower heating... by changing the word "climat" to "climate".
2.97	Last paragraph, change CONSTRUCTION to EXTERIOR-WALL.
2.115	Replace the existing drawing with this one.

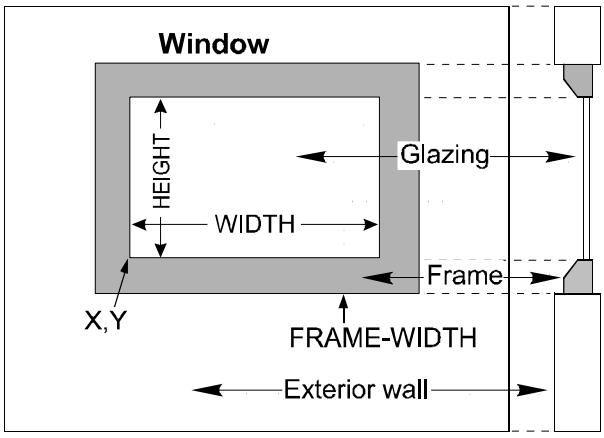

Figure 2.23: The dimensioning of a window with a frame. The WINDOW keywords X and Y, which indicate the position of the window on the wall, refer to the lower left corner of the glazed portion, *not* the lower left corner of the frame.

In the SYSTEMS Section

3.3	In the Table of Contents for SYSTEMS, starting in the right-hand column, all the page numbers should be decreased by one. That is, VARIOUS CONTROL ENHANCEMENTS starts on p.3.117, not 3.118, Control of Air Flow Rate to Zones starts on p.118, not 3.119. [don't ask!]
3.4	Fourth paragraph, change the word mothly to monthly
3.27	Top of the page, first item HP-SUPP-SOURCE. Last line of the description should read: PLANT), FURNACE, and GAS-HYDRONIC.
3.34	Add a new keyword GLOOP-TEMP-SCH. GLOOP-TEMP-SCH accepts a schedule of ground temperatures in °F with a default of the weather file ground temperatures (or those specified in LOADS).
3.34	Add the code-word FROM-GROUND to the HP-LOOP-HEATING and HP-LOOP-COOLING keywords. FROM-GROUND allows you to specify that the supply water temperature to the loop is set equal to the current month weather file (or LOADS specified) ground temperature or alternatively uses the value specified by the hourly value of the new schedule keyword GLOOP-TEMP-SCH (schedule is given a value in F that is used as the loop supply temperature).
3.59, 3.60	Note that the keyword WASTE-HEAT-USE must be set to SPACE-HEAT+DHW for the GAS-HEAT-PUMP to supply waste heat to the DHW-TYPE = WASTE-HEAT or DESUPERHEAT unit; this is the default for systems without GAS-HEAT-PUMP specified. Also add PSZ, PMZS, PVAVS, and PVVT to the types of systems that can have a DHW-TYPE = DESUPERHEAT; in these cases the desuperheater is only used when the DX unit is in the cooling mode (no HEAT-PUMP desuperheater available.)
3.64	Under SYSTEM-EQUIPMENT, Change the code-word DIRECT-DIRECT to INDIRECT-DIRECT .
3.65	Under SYSTEM-AIR, add this sentence to the description for MIN-OUTSIDE-AIR: If you want to modify the value o the amount of outside air in the system, in order to reduce outside air during unoccupied hours, use MIN-AIR-SCH.
3.84	Under SYSTEM-EQUIPMENT, the description for keyword CONDENSER-TYPE should read as follows: accepts code-words AIR-COOLED (the default), EVAP-PRECOOLED (for PSZ, PMZS, PVAVS, PVVT, PTAC and RESYS systems), or WATER-COOLED (for PSZ, PVAVS, and PVVT systems).
3.101	Top of the page, first item FAN-SCHEDULE. Second sentence should read: If the hourly value is 1, the fans are on.
3.121	Paragraph 1, line 4, change hae to had
3.130	Under Step 5., second paragraph, last line, change the word though to through
3.131	Under Step 7., change OA-CFM/PERSON to OA-CFM/PER.
3.132	Under Step 12., first line should read: Calculate the default value, using the greater value, of MIN-CFM-RATIO for variable air volume systems.

In the PLANT Section

Page No.	Correction
4.4	In the example, under both GASCL and OTHER = UTILITY-RATE, change the word METER to METERS.
4.7	In the table, under Metric Default UNIT Values for ENERGY-RESOURCE, change Btu to Wh under the ENERGY-UNIT column.
4.9	Change ABSORG-FUEL-XEFF to ABSORG-HEAT-XEFF.
4.39	Under TWR-DESIGN-APPROACH, last sentence should read: of TWR-CAP-CTRL and the temperature setpoint.

4.39	Under the code-word FIXED , second sentence should read: TWR-SETPT-T. Tower capacity adjusts according
4.47	Remove the keywords COGEN-TRACK-MODE, COGEN-TRACK-SCH, MIN-TRACK-LOAD, DIESEL-TRACK-MODE, and DBUN-MIN-HEAT.
4.47	Paragraph at the bottom of this page starting with, *Note: The freedom to choose...* should be moved to the bottom of page 4.48.
4.81	ABSOR1-HIR-FPLR and ABSOR2-HIR-FPLR, change curve type from CUBIC to QUAD

In the ECONOMICS Section

Page No.	Correction
5.8	The name of the keyword BLOCK-CHARGE should be changed to BLOCK-CHARGES. Also, in the keyword description, change BLOCK-CHARGEs to BLOCK-CHARGES.
5.30	Under Example 1, change ENERGY-COST to ENERGY-CHG.
5.32	Under Example 4, change the ENERGY-CHGS line to: ENERGY-CHG = 0.05
5.40	Under Example 8, remove the line that starts with ETC.

Appendix A

Page No.	Correction
A.2	Variable List Number 17 WNDSPD, add this sentence: See Variable Number 58, VARIABLE-TYPE = U-name of SPACE, for wind speed at building.
A.3	Variable List Number 39, change the FORTRAN variable name from IMON to IMO
A.5	Variable List Number 6 BLDDTH(6), description should read: p.25 Building Heating load from solar radiation through exterior windows.
A.6	Variable List Number 24 BLDDTC(6), description should read: p.25 Building Heating load from solar radiation through exterior windows.
A.7	Variable List Number 14 QSOL, description should read: p.25 Glass solar gain (from exterior windows only)
A.8	Variable List Number 33 QSOL, description should read: p.25 Glass solar load (from exterior windows only)
A.10	Variable List Number 16 BG, add this sentence to the end of the description: (This is not equal to the ground diffuse solar radiation incident on the wall.)
A.10	Variable List Number 18 RDIF, description should read: Intensity of diffuse solar radiation on the surface from the sky and ground, after shading (Btu/hr-ft) incident on the wall.
A.11	Variable List Number 2 TDIR, add this sentence: If SHADING-COEF is specified, equals direct transmission coefficient of 1/8" clear reference glass.
A.11	Variable List Number 3 ADIRO, add this sentence: If SHADING-COEF is specified, equals direct absorption coefficient of 1/8" clear reference glass.
A.11	Variable List Number 4 TDIF, add this sentence: If SHADING-COEF is specified, equals diffuse transmission coefficient of 1/8" clear reference glass.
A.11	Variable List Number 5 ADIFO, add this sentence: If SHADING-COEF is specified, equals diffuse absorption coefficient of 1/8" clear reference glass.
A.11	Variable List Number 6 ADIRI, add this sentence: Zero if SHADING-COEF is specified or single pane.
A.11	Variable List Number 7 ADIRI, add this sentence: Zero if SHADING-COEF is specified or single pane.

A.11	Variable List Number 8 FI, add this sentence: Zero if SHADING-COEF is specified or single pane.
A.13	Variable List Number 24 <ILLUMW>
A.13	Variable List Number 25 <ILLUMW>
A.17	Variable List Number 14, remove the word *design* from the description.
A.31	In the description change (°F) to (%).
A.49	Variable List Number 38, change the FORTRAN variable name from ETEMPR to FTEMPR
A.49	Add the following new items for VARIABLE-TYPE = U-name of a PLANT-ASSIGNMENT: Variable List Number 41 - New FORTRAN variable QHLUPN Net heat added to loop (from PLANT, boiler, or ground). Variable List Number 42 - New FORTRAN variable QCLUPN Net heat rejected from loop (from PLANT, tower, or ground).
A.59	Variable List Number 3, change FORTRAN variable name from ENGYLD(3,IHR) to SYSKW. In the description, change (Btu/hr) to (kW)
A.59	Variable List Number 10, change FORTRAN variable name from PDEM(3) to PDEM(3)*KWH/BTU. In the description, change (Btu/hr) to (kW)

Appendix C

Page No.	Correction
C.52	Under REPORT LS L, change a) to read as follows: a) The shading schedule for an exterior window specifies management. Change b) to read as follows: b) If the transmitted direct solar gain through an exterior window exceeds a pre-specified value MAX-SOLAR-SCH, then, with probability SUN-CTRL-PROB, shades will be in effect.
C.100	Delete first paragraph and replace with this: In this scatter plot, the ordinate, appearing in the left column, shows relative humidity bins. The abscissa, shown at the top, gives hours of the day; e.g., 1AM corresponds to the hour between Midnight and 1AM. Entered in each cell of the plot is the number of hours during the RUN PERIOD for which the relative humidity of the system return air was in the particular relative humidity bin for this particular hour of the day. Only hours for which the fans are on are counted in this plot.
C.104	Delete first paragraph and replace with this: Report SS-P is produced at both the SYSTEM and PLANT-ASSIGNMENT levels. The following description is for the SYSTEM level report. See REPORT SS-P (for PLANT-ASSIGNMENT) , following, for a description of the PLANT-ASSIGNMENT level.
C.135	Replace MONTHLY PEAK AND TOTAL ENERGY USE with MONTHLY UTILITY AND FUEL USE SUMMARY .